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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/776,009	02/02/2001	Michael A. Vyvoda	MA-027	7430
33971	7590	01/07/2005	EXAMINER	
MATRIX SEMICONDUCTOR, INC. 3230 SCOTT BOULEVARD SANTA CLARA, CA 95054			MAI, ANH D	
			ART UNIT	PAPER NUMBER
			2814	

DATE MAILED: 01/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/776,009

Applicant(s)

VYVODA ET AL.

Examiner

Anh D. Mai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 63-66 and 68-70 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 63-66 and 68-70 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Status of the Claims

1. Amendment filed October 12, 2004 has been entered. Claim 67 have been canceled. Claim 69 has been amended. Thus, claims 63-66 and 68-70 are pending.

Claim Rejections - 35 USC § 102/103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 63-66 and 68-70 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Wu (U.S. Patent No. 6,008,087).

With respect to claim 63, insofar as the structure is concerned, Wu teaches a wafer having a surface as claimed including:

a plurality of elongated strips of polysilicon (16); and
a plurality of elongated strips of dielectric material (20), the strips of dielectric material alternating with the strips of polysilicon (16),
wherein the surface has been planarized by chemical mechanical planarization, and
wherein a first percentage of total wafer surface area that is polysilicon is less than or equal to 70 percent ($\leq 70\%$). (See Figs. 6 and 9).

Product by process limitation:

The expression “wherein the surface has been planarized by chemical mechanical planarization” is taken to be a product by process limitation and is given no patentable weight. A

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product by process claim directed to the product per se, no matter how actually made, *In re Hirao*, 190 USPQ 15 at 17 (footnote 3). See *In re Fessman*, 180 USPQ 324, 326 (CCPA 1974); *In re Marosi et al.*, 218 USPQ 289, 292 (Fed. Cir. 1983); and particularly *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985), all of which make it clear that it is the patentability of the final structure of the product “gleaned” from the process steps, which must be determined in a “product by process” claim, and not the patentability of the process. See also MPEP 2113. Moreover, an old and obvious product produced by a new method is not a patentable product, whether claimed in “product by process” claims or not.

With respect to claims 64-66, Wu teaches the dimensions of the silicon nitride pattern 6 (300-3000 Å), the opening 12 (500-5000 Å) and the thickness of the polysilicon layer 16 (200-3000 Å) thus, encompass the claimed first percentage of greater than 50 percent (>50%), less than or equal to 60 percent ($\leq 60\%$) or less than or equal to 50 percent ($\leq 50\%$).

With respect to claim 68, the strips of polysilicon (16) of Wu have a shortest dimension (200-3000 Å), thus, less than 500 μm .

With respect to claim 69, as best understood by the examiner, the strips of polysilicon (16) of Wu have a shortest dimension (200-3000 Å) overlaps the claimed range (between 0.25 and 500 μm).

With respect to claim 70, since the first percentage of total wafer surface area that is polysilicon of Wu is less than or equal to 70 percent ($\leq 70\%$), therefore, the surface of the wafer

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of Wu inherently can attract enough water to wet sufficiently allowing removal of residual particles therefrom.

Response to Arguments

3. Applicant's arguments filed October 12, 2004 have been fully considered but they are not persuasive.

Rejection under 35 U.S.C 102/103:

Applicants state: Wu does indeed provide the ranges cited for each of the elements cited. But Wu provides no guidance for the relative dimensions to be used, as recited in the claims.

Note that, the claims recite: “comprising”, therefore, any combination of the ranges as taught by Wu which results in “less than or equal to 70 percent” encompasses the claimed range. Thus the rejection is proper.

4. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., relative dimension) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicants further state: As in prior responses, Applicants respectfully maintain that a surface planarized by chemical mechanical planarization is appreciably different in character than a surface not planarized or planarized by some other means, and is different in a manner that is central to the subject of the invention; thus this limitation is entitled to patentable weight.

However, Applicants fail to provide any solid evidence to support his statement.

What are the characteristic differences between the planar surfaces performed by different method ?

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

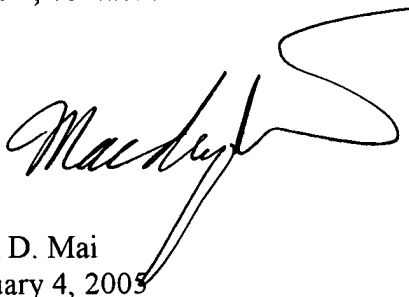
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh D. Mai whose telephone number is (571) 272-1710. The examiner can normally be reached on 9:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Anh D. Mai
January 4, 2009